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PATENT

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**MARKED-UP VERSION SHOWING CHANGES**

the "k" nearest neighbors (referred to herein as the "k" data vectors  $p$  that are closest to  $q$ ) in response. The query vector  $q$  can be, e.g., an example image for which the user wants close matches. Other applications of k-nearest neighbor searching are contemplated herein, such as but not limited to document retrieval, data mining, pattern classification, and machine learning.

As intended herein, either or both of the server 12/user computer 18 can be a server computer made by International Business Machines Corporation (IBM) of Armonk, N.Y. Other digital processors, however, may be used, such as personal computers, laptop computers, mainframe computers, palmtop computers, personal assistants, or any other suitable processing apparatus can be used. The input device 16 can be established by one or more of: a computer mouse, keyboards, keypads, trackballs, and voice recognition devices. Output devices other than the monitor 22 can be used, such as printers, other computers or data storage devices, and computer networks.

In any case, the processor of the server 12 accesses the module 14 to undertake the logic of the present invention, which may be executed by a processor as a series of computer-executable instructions. The instructions may be contained on a data storage device with a computer readable medium, such as a computer diskette having a computer usable medium with a program of instructions stored thereon. Or, the instructions may be stored on random access memory (RAM) of the computer, on a DASD array, or on magnetic tape, conventional hard disk drive, electronic read-only memory, optical storage device, or other appropriate data storage device. In an illustrative embodiment of the invention, the computer-executable instructions may be lines of C or C++ or [Java] JAVA code.

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